

Patent claims

1. A use of alginate as a filling material in medicine and surgery for the purpose of filling up volume, characterized in that the alginate is used in the crosslinked and/or uncrosslinked state.
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2. The use according to claim 1, for treatment of skin wrinkles.
3. The use according to claim 1, for supporting sphincter musculatures.
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4. The use according to claim 1, for treatment of gastro-oesophageal reflux disease.
5. The use according to claim 1, for treatment of urinary incontinence.
- 15 6. The use according to claim 1, for treatment of vesico-ureteral reflux disease.
7. The use according to claim 1, characterized in that a highly pure and medium to high molecular weight potassium or sodium alginate is used.
- 20 8. The use according to claim 1, wherein microcapsules or microparticles of alginate which are crosslinked with barium by itself or together with calcium or other di- or polyvalent cations are used.
9. The use according to claim 1, wherein microcapsules or microparticles of alginate which are crosslinked with calcium are used.
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10. The use according to claim 1, characterized in that additional active compounds which are to be assigned to the following substance classes are introduced into the alginate: vitamins, adhesion proteins, antiinflammatory substances, antibiotics, growth factors, hormones, nutrients, marker substances, vital cells.
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11. The use according to claim 8 and 9, characterized in that the microcapsules of alginate are suspended in a physiological injection solution.

12. The use according to claim 8 and 9, characterized in that microcapsules of crosslinked alginate having a diameter of 20 - 2,000 μm are used.
- 5 13. The use according to claim 1, characterized in that other forms apart from capsules are formed from alginate and injected, the forms being crosslinked with barium by itself or together with calcium or other di- or polyvalent cations.
- 10 14. The use according to claim 8, characterized in that the barium-crosslinked microcapsules of alginate are washed with a solution of Ca^{2+} or other di- or polyvalent cations.
- 15 15. The use according to claim 9, characterized in that the calcium-crosslinked microcapsules of alginate are washed with a solution of Ba^{2+} or other di- or polyvalent cations.
16. The use according to claim 1, characterized in that the crosslinked alginate forms injected are dissolved again by a subsequent injection of an EDTA or citrate solution.
- 20 17. The use according to claim 1, characterized in that soluble alginate is used in a concentration of 0.1 - 4 % (w/v).
- 25 18. The use according to claim 17, characterized in that the solvent for the alginate is a physiological injection solution.
- 30 19. The use according to claim 17, characterized in that the soluble alginate is injected into the implantation site and is crosslinked in situ by parallel or directly subsequent injection of dissolved barium or calcium salt, by itself or together with other di- or polyvalent cations.
20. The use according to claim 17, characterized in that complexed Ba^{2+} or other complexed di- or polyvalent cations are additionally dissolved in the soluble alginate, and this mixture is injected, as a result of which the crosslinking takes place in situ.

21. The use according to claim 17, characterized in that barium carbonate or calcium carbonate and D-glucono- γ -lactones are additionally dissolved in the alginate solution directly before the injection.
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22. The use according to claim 1, characterized in that the crosslinked alginates can also be dissolved again in situ by injection of an EDTA or citrate solution, or a solution of other complexing agents.